

WHAT IS CLAIMED IS:

1. A multibeam light source comprising:
  - a plurality of semiconductor laser arrays, wherein each semiconductor laser array includes a plurality of semiconductor lasers
  - 5 each of which emits a laser beam; and
  - a deflector that receives the laser beams and deflects the laser beams towards a recording medium, whereby an array of focuses is formed on the recording medium corresponding to each semiconductor laser array, wherein
  - 10 a sub-scanning beam pitch is set as  $P - (A/VM) \cdot VS + C$ , where P is a recording density interval on the recoding medium, VM is a main scanning velocity, VS is a sub-scanning velocity, A is an interval between the arrays of focuses in a main scanning direction, and C is a correction amount of the beam pitch, wherein the sub-scanning beam
  - 15 pitch is defined by a distance between an arbitrary point on a line connecting focuses of a preceding array of the focuses and a point that corresponds to the arbitrary point on a line connecting focuses of an adjoining array of the focuses.
- 20 2. The multibeam light source device according to claim 1, wherein the laser beams received by the deflector have a predetermined opening angle.
3. The multibeam light source according to claim 1, wherein the
- 25 recording density interval is 50  $\mu\text{m}$  or less.

4. A multibeam light source comprising:  
a plurality of semiconductor laser arrays, wherein each semiconductor laser array includes a plurality of semiconductor lasers each of which emits a laser beam; and
- 5 a deflector that receives the laser beams and deflects the laser beams towards a recording medium, whereby an array of focuses is formed on the recording medium corresponding to each semiconductor laser array, wherein
- a sub-scanning beam pitch is set as  $P-(A/VM) \cdot VS+C$ , where P is
- 10 a recording density interval on the recording medium, VM is a main scanning velocity, VS is a sub-scanning velocity, A is an interval between the arrays of focuses in a main scanning direction, and C is a correction amount of the beam pitch, wherein the sub-scanning beam pitch is defined by a distance between a most preceding array of the
- 15 focuses and an adjoining array of the focuses.
5. The multibeam light source device according to claim 4, wherein the laser beams received by the deflector have a predetermined opening angle.
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6. The multibeam light source according to claim 4, wherein the recording density interval is 50  $\mu\text{m}$  or less.

7. A multibeam light source comprising:  
a plurality of semiconductor laser arrays, wherein each semiconductor laser array includes a plurality of semiconductor lasers each of which emits a laser beam; and
- 5 a deflector that receives the laser beams and deflects the laser beams towards a recording medium, whereby an array of focuses is formed on the recording medium corresponding to each semiconductor laser array, wherein
- a sub-scanning beam pitch is set as  $P - (A/VM) \cdot VS + C$ , where P is
- 10 a recording density interval on the recording medium, VM is a main scanning velocity, VS is a sub-scanning velocity, A is an interval between the arrays of focuses in a main scanning direction, and C is a correction amount of the beam pitch, wherein the sub-scanning beam pitch is defined by a distance between a center of focuses of a first
- 15 semiconductor laser array and a center of focuses of a second semiconductor laser array, wherein the first semiconductor laser array scans first in a main scanning direction and the second semiconductor laser array scans next in the main scanning direction.
- 20 8. The multibeam light source device according to claim 7, wherein the laser beams received by the deflector have a predetermined opening angle.
9. The multibeam light source according to claim 7, wherein the
- 25 recording density interval is 50  $\mu\text{m}$  or less.

10. A multibeam scanner comprising a multibeam light source including

a plurality of semiconductor laser arrays, wherein each semiconductor laser array includes a plurality of semiconductor lasers each of which emits a laser beam; and

a deflector that receives the laser beams and deflects the laser beams towards a recording medium, whereby an array of focuses is formed on the recording medium corresponding to each semiconductor laser array, wherein

10 a sub-scanning beam pitch is set as  $P - (A/VM) \cdot VS + C$ , where P is a recording density interval on the recording medium, VM is a main scanning velocity, VS is a sub-scanning velocity, A is an interval between the arrays of focuses in a main scanning direction, and C is a correction amount of the beam pitch, wherein the sub-scanning beam  
15 pitch is defined by a distance between an arbitrary point on a line connecting focuses of a preceding array of the focuses and a point that corresponds to the arbitrary point on a line connecting focuses of an adjoining array of the focuses.

20 11. A multibeam scanner comprising a multibeam light source including

a plurality of semiconductor laser arrays, wherein each semiconductor laser array includes a plurality of semiconductor lasers each of which emits a laser beam; and

25 a deflector that receives the laser beams and deflects the laser

beams towards a recording medium, whereby an array of focuses is formed on the recording medium corresponding to each semiconductor laser array, wherein

a sub-scanning beam pitch is set as  $P-(A/VM) \cdot VS+C$ , where P is  
5 a recording density interval on the recoding medium, VM is a main scanning velocity, VS is a sub-scanning velocity, A is an interval between the arrays of focuses in a main scanning direction, and C is a correction amount of the beam pitch, wherein the sub-scanning beam pitch is defined by a distance between a most preceding array of the  
10 focuses and an adjoining array of the focuses.

12. A multibeam scanner comprising a multibeam light source device including

a plurality of semiconductor laser arrays, wherein each  
15 semiconductor laser array includes a plurality of semiconductor lasers each of which emits a laser beam; and

a deflector that receives the laser beams and deflects the laser beams towards a recording medium, whereby an array of focuses is formed on the recording medium corresponding to each semiconductor  
20 laser array, wherein

a sub-scanning beam pitch is set as  $P-(A/VM) \cdot VS+C$ , where P is a recording density interval on the recoding medium, VM is a main scanning velocity, VS is a sub-scanning velocity, A is an interval between the arrays of focuses in a main scanning direction, and C is a  
25 correction amount of the beam pitch, wherein the sub-scanning beam

pitch is defined by a distance between a center of focuses of a first semiconductor laser array and a center of focuses of a second semiconductor laser array, wherein the first semiconductor laser array scans first in a main scanning direction and the second semiconductor laser array scans next in the main scanning direction.

13. A method of scanning used on a multibeam scanner, the multibeam scanner including a plurality of semiconductor laser arrays, wherein each semiconductor laser array includes a plurality of semiconductor lasers each of which emits a laser beam, and a deflector that receives the laser beams and deflects the laser beams towards a recording medium, whereby an array of focuses is formed on the recording medium corresponding to each semiconductor laser array, the method comprising:

15 setting a sub-scanning beam pitch as  $P - (A/VM) \cdot VS + C$ , where  $P$  is a recording density interval on the recording medium,  $VM$  is a main scanning velocity,  $VS$  is a sub-scanning velocity,  $A$  is an interval between the arrays of focuses in a main scanning direction, and  $C$  is a correction amount of the beam pitch, wherein the sub-scanning beam

20 pitch is defined by a distance between an arbitrary point on a line connecting focuses of a preceding array of the focuses and a point that corresponds to the arbitrary point on a line connecting focuses of an adjoining array of the focuses.

14. A method of scanning used on a multibeam scanner, the multibeam scanner including a plurality of semiconductor laser arrays, wherein each semiconductor laser array includes a plurality of semiconductor lasers each of which emits a laser beam, and a deflector  
5 that receives the laser beams and deflects the laser beams towards a recording medium, whereby an array of focuses is formed on the recording medium corresponding to each semiconductor laser array, the method comprising:

setting a sub-scanning beam pitch as  $P - (A/VM) \cdot VS + C$ , where P  
10 is a recording density interval on the recording medium, VM is a main scanning velocity, VS is a sub-scanning velocity, A is an interval between the arrays of focuses in a main scanning direction, and C is a correction amount of the beam pitch, wherein the sub-scanning beam pitch is defined by a distance between a most preceding array of the  
15 focuses and an adjoining array of the focuses.

15. A method of scanning used on a multibeam scanner, the multibeam scanner including a plurality of semiconductor laser arrays, wherein each semiconductor laser array includes a plurality of  
20 semiconductor lasers each of which emits a laser beam, and a deflector that receives the laser beams and deflects the laser beams towards a recording medium, whereby an array of focuses is formed on the recording medium corresponding to each semiconductor laser array, the method comprising:

25 setting a sub-scanning beam pitch as  $P - (A/VM) \cdot VS + C$ , where P

is a recording density interval on the recoding medium, VM is a main scanning velocity, VS is a sub-scanning velocity, A is an interval between the arrays of focuses in a main scanning direction, and C is a correction amount of the beam pitch, wherein the sub-scanning beam  
5 pitch is defined by a distance between a center of focuses of a first semiconductor laser array and a center of focuses of a second semiconductor laser array, wherein the first semiconductor laser array scans first in a main scanning direction and the second semiconductor laser array scans next in the main scanning direction.

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